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H0001242 (02158.006700) PATENT APPLICATION

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

In re Application of:	)	
	:	Examiner: D. Tran
DANIEL R. LEGER, ET AL.	)	
	:	Group Art Unit: 3661
Application No.: 09/698,278	)	
	:	
Filed: October 30, 2000	)	
	:	
For: WEATHER INFORMATION NETWORK INCLUDING GRAPHICAL DISPLAY	)	July 21, 2004

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BRIEF ON APPEAL

Sir:

Appellants respectfully appeal from the Primary Examiner's final Office Action dated December 23, 2003, rejecting each pending claim, namely, Claims 1-39. In support of this appeal, and pursuant to 37 C.F.R. §1.192 and M.P.E.P. §1206, Appellants submit this Brief in triplicate.

As required, Appellants are filing three copies of the Brief together with a check for $330.00, the fee required under 37 C.F.R. §1.17(c).

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I. REAL PARTY IN INTEREST

The real party in interest is Honeywell International Inc., Assignee of the full and exclusive right for the territory of the United States of America in and to the invention described and claimed in the present application. The Assignment, executed March 15, 2001, is recorded in the U.S. Patent and Trademark Office at Reel 011670, Frame 0592.

II. RELATED APPEALS AND INTERFERENCES

Appellants, Appellants' legal representative, and the Assignee are not aware of any other appeals or interferences which will directly affect, be directly affected by, or have a bearing on, the Board's decision in the instant appeal.

III. STATUS OF CLAIMS

Claims 1-39 are pending in the application, and all of the claims are finally rejected. Claims 1, 6, 8, 9, 14, 19, 24, 28, 32 and 35 are independent. Appellants are appealing the rejection of claims 1-39.

The full text of each appended claim appears in Appendix A.

IV. STATUS OF AMENDMENTS

A Request for Reconsideration (Request) was filed on February 19, 2004, subsequent to a final Office Action mailed December 23, 2003. An Advisory Action issued March 24, 2004, indicating that the Request would be entered for purposes of Appeal.

V. SUMMARY OF THE INVENTION

The invention relates in one aspect to an apparatus for providing weather information onboard an aircraft. The two primary elements of the apparatus, present in each of independent claims 1, 6 and 8, are a processor unit 220 (Figure 6; ¶ 88, page 15, *et. seq.*) and a graphical user interface (GUI) 225 (Fig. 6; ¶ 88, page 15, *et. seq.*).

In claim 1, the processor unit 220 processes weather information after it is received onboard the aircraft 110 (Figs. 1-5; ¶ 60, page 10, *et. seq.*) from a ground based source 100 (Fig. 1; ¶ 60, page 10) containing a plurality of sources 105 (Fig. 1; ¶ 60, page 10). The graphical interface 225 provides a graphical presentation of the weather information to a user onboard the aircraft (Figs. 8 and 9, ¶ 92, page 16, *et. seq.*), and includes a user-selectable option that allows the user to request specific weather information for transmission from the ground-based source to the aircraft (Figs. 8-11; ¶¶ 92-95, pages 16, 17).

In addition to a processor unit and a graphical interface, claim 6 provides a plan view of the weather information and position of the aircraft to a user onboard the aircraft, and further includes a user-selectable option for centering the plan view on the position of the aircraft, even as the position of the aircraft changes (¶ 10, page 4).

In claim 8, the graphical user interface provides a plan view of the weather information for a selected altitude to a user onboard the aircraft and includes a user-selectable option for changing the selected altitude (¶ 98, pages 17, 18).

The remaining independent claims, i.e., claims 9, 14, 19, 24, 28, 32 and 35, are directed to another aspect of the invention relating to a method of providing specific types of weather-related information to an aircraft. Each claim generally includes the steps of collecting the specific information at a centralized data center, providing a specific request from the aircraft

for the information, transmitting the information from the data center to the aircraft in response to the request, and graphically displaying the information onboard the aircraft (¶ 59, pages 9, 10; ¶ 82, pages 13, 14, Fig. 2).

In claim 9, convection information is the specific type of information provided (Fig. 13, ¶ 97, page 17). Claim 14 provides turbulence information (Fig. 14; ¶ 98, pages 17, 18). Claim 19 provides icing information (Fig. 17; ¶ 100, page 18). In claims 24 and 28, weather satellite information (Fig. 16; ¶ 99, page 18) and SIGMET information (Figs. 18-20; ¶¶ 101, 102, pages 18, 19) are provided, respectively. Claim 32 provides significant weather prognosis information (Fig. 22; ¶ 104, page 19). Finally, claim 35 provides winds aloft information (Fig. 23; ¶ 105, page 19).

VI. ISSUES

The issues presented in this appeal are:

a. Whether claims 1, 3, 5 and 8 are unpatentable under 35 U.S.C. §103(a) over U.S. Patent No. 6,313,759, to Musland-Sipper in view of U.S. Patent No. 5,999,882, to Simpson, et al. (Simpson)

b. Whether claims 6 and 7 are unpatentable under 35 U.S.C. §103(a) over Musland-Sipper '759 in view of U.S. Patent No. 5,757,322, to Ray, et al. (Ray)

c. Whether claims 9-39 are unpatentable under 35 U.S.C. §103(a) over Ray, et al. '322 in view of Simpson '882 and U.S. Patent No. 6,043,756, to Bateman, et al. (Bateman)

VII. GROUPING OF CLAIMS

Claims 1, 3, 5 and 8 stand or fall together, and claims 2 and 4 stand or fall with this group. Claims 6 and 7 stand or fall together. Finally, claims 9-39 stand or fall together.

VIII. ARGUMENT

A. Claims 1, 3, 5 and 8 are finally rejected under 35 U.S.C. §103 in view of Musland-Sipper and Simpson.

B. Independent Claims 1 and 8 are patentable over the applied art.

Claim 1 sets forth an apparatus for providing weather information onboard an aircraft, and features a processor unit and a graphical user interface. The processor unit processes weather information after it is received onboard the aircraft from a ground-based source containing a plurality of types of weather information. The graphical user interface provides a graphical presentation of the weather information to a user onboard the aircraft. As claimed, the graphical user interface includes a user-selectable option that allows the user to request specific weather information for transmission from the ground-based source to the aircraft.

Musland-Sipper relates to a system for communicating between an aircraft and a ground control station. A graphical interface is provided as an improved communication system between the aircraft and an air traffic control center (ATC). Conventionally, oral communication systems were used to communicate between the aircraft and the ATC.

In the graphical interface disclosed in Musland-Sipper, a REPORT/REQUEST menu 70, as shown in Figure 7, includes an actuating button 2L to bring up a "REQ WEATHER DEV" page. This allows the operator to request for a "weather deviation" up to a specified

distance and in a given direction (see column 4, lines 24-27). It is respectfully submitted, however, that this " request" is not a request for specific information as recited in Applicants' claimed invention, as it lacks any details regarding the requested weather deviation. On this point, the previous Office Action mailed December 23, 2003 asserts, in paragraph 8 (page 8), that Musland-Sipper discloses buttons 1L through 4L for selection by a user to input a specific request for weather information for transmission from the ground base, referring to column 4, lines 16-34 and Figure 7. As this section of the patent is read by Applicants, however, actuating button 1L requests a REQ ALT/SPD/DIR information, relating to an operator's request to fly at a specified altitude or speed or to request tracking; actuating button 3L brings up a monitoring page 76, which allows the operator to send a message notifying the ground station that the operator is monitoring a specified ICAO unit on a specified frequency; and actuating button 4L brings up a DEVIATE page 78. It is respectfully submitted that none of these options serve to teach or suggest requesting specific weather information. Moreover, although Musland-Sipper discloses that a main menu may also include other "requests or reports" (column 4, lines 33, 34), there is no teaching or suggestion that such other requests or reports are for specific weather information.

Accordingly, it is respectfully submitted that the Musland-Sipper patent cannot be read to teach or suggest requesting specific weather information, and this deficiency is not remedied by the secondary citation.

The Simpson patent relates to a system for providing weather information along a travel route, and was cited for its teaching of a ground-based source containing a plurality of types of weather information.

It is respectfully submitted, however, that because the Musland-Sipper patent does not request specific weather information, the proposed combination of art, even if proper, still fails to teach or suggest the invention as set forth in claim 1. In other words, even if the Musland-Sipper patent was modified to include a variety of weather selection information, it would still fail to teach or suggest, *inter alia*, a user-selectable option that allows the user onboard the aircraft to request specific weather information for transmission from the ground-based source.

Claim 8 includes a processor unit and a graphical user interface substantially as set forth in claim 1, and thus is submitted to be patentable for at least these same reasons.

Accordingly, reconsideration and withdrawal of the rejection of independent claims 1 and 8 under 35 U.S.C. §103 is respectfully requested.

C. Claims 6 and 7 are finally rejected under 35 U.S.C. §103 in view of Musland-Sipper and Ray.

D. Independent Claim 6 is patentable over the applied art.

In claim 6 of Appellants' invention, an apparatus provides weather information onboard an aircraft, and includes a processor unit and a graphical user interface. Like claim 1, claim 6 recites that the graphical user interface includes a user-selectable option that allows the user to request specific weather information for transmission from the ground-based source to the aircraft. In Claim 6, the graphical user interface also provides a plan view of the weather information and the position of the aircraft to a user onboard the aircraft, and includes a user

selectable option for centering the plan view on the position of the aircraft, even as the position of the aircraft changes.

The primary citation to Musland-Sipper is discussed above.

The secondary citation to Ray relates to a cellular weather information system specifically for providing information on thunderstorms. With respect to claims 6 and 7, this patent was relied upon for its teaching of disclosing a plan view of the weather information and position of the aircraft to an onboard user.

It is submitted, however, that the proposed combination of Musland-Sipper and Ray, even if proper, still fails to teach or suggest, *inter alia*, a graphical user interface that allows the user onboard the aircraft to request specific weather information for transmission from the ground-based source. For the reasons discussed above, Musland-Sipper is not read to allow an operator to request specific weather information, and the patent to Ray fails to compensate for this deficiency. Reconsideration and withdrawal of the rejection of claims 6 and 7 under 35 U.S.C. §103 is therefore respectfully requested.

E. Claims 9-39 are finally rejected under 35 U.S.C. §103 in view of Ray, Simpson and Bateman.

F. Independent Claims 9, 14, 19, 24, 28, 32 and 35 are patentable over the applied art.

Representative claim 9 is directed to a method of providing convection information to an aircraft, and includes the steps of collecting convection information at a centralized data center, providing a specific request from the aircraft for the convection

information, and transmitting the convection information from the data center to an aircraft in response to the request.

The previous Office Action asserts that Ray is capable of providing a specific request from the aircraft for weather information (see ¶ 8, page 8 of the Office Action). It is respectfully submitted, however, that Ray is understood to disclose that SIGMETS are transmitted automatically to the aircraft, or an aircraft equipped with cellular telephones are called by the ground station (see column 5, lines 55-63) and asked if they want to receive this information. Ray can also provide atmosphere electrical activity information to an aircraft generated by storms or other disturbances "responsive to a service request" (column 2, lines 7-12), but this is not understood to mean a request from the aircraft, and Ray does not elaborate on where the request initiated. Therefore, it is submitted that Ray does not teach or suggest providing a specific request from the aircraft for weather information.

The secondary citations to Simpson, et al. and Bateman, et al. are relied upon for their teachings of providing various types of weather information, such as weather satellite information, SIGMET information, and winds aloft information (Simpson, et al.) or convection information, turbulence information and icing information (Bateman, et al.).

Neither secondary citation, however, transmits weather information from a centralized data center in response to a specific request from the aircraft, and thus fails to compensate for the deficiencies in the Ray patent.

Accordingly, it is submitted that the proposed combination of Ray, Simpson and Bateman, even if proper, still fails to teach or suggest claim 9. Claims 14, 19, 24, 28, 32 and 35 are submitted to be patentable for at least the same reasons, i.e., these claims also recite transmitting weather information from a centralized data center in response to a specific request

from the aircraft. Reconsideration and withdrawal of the rejection of claims 9-39 under 35 U.S.C. §103 is therefore respectfully requested.

IX. CONCLUSION

In conclusion, independent claims 1, 6, 8, 9, 14, 19, 24, 28, 32 and 35 are not obvious under 35 U.S.C. §103 over the cited art, whether taken individually or in combination with each other, for the reasons given above. Accordingly, the Board is respectfully requested to reverse the outstanding rejections of the claims under 35 U.S.C. §103.

Appellants' undersigned attorney may be reached in our Washington, D.C. office by telephone at (202) 530-1010. All correspondence should continue to be directed to Honeywell's address given below.

Respectfully submitted,

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APPENDIX A

1. (Previously Presented) An apparatus for providing weather information onboard an aircraft, comprising:

a processor unit which processes weather information after it is received onboard the aircraft from a ground-based source containing a plurality of types of weather information; and

a graphical user interface which provides a graphical presentation of the weather information to a user onboard the aircraft, and which includes a user-selectable option that allows the user to request specific weather information for transmission from the ground-based source to the aircraft.

2. (Previously Presented) The apparatus of claim 1, wherein the graphical user interface further includes one or more user-selectable options for graphically displaying at least one of convection information, turbulence information, icing information, weather satellite information, SIGMET information, significant weather prognosis information, and winds aloft information.

3. (Original) The apparatus of claim 1, wherein the graphical user interface further includes a user-selectable option that allows the user to select what weather information is automatically transmitted from the ground-based source.

4. (Original) The apparatus of claim 1, wherein the graphical user interface further includes a user-selectable option for displaying the weather information in cross-sectional view along a route of the aircraft.

5. (Original) The apparatus of claim 1, wherein the graphical user interface allows the user to view multiple types of weather data simultaneously.

6. (Previously Presented) An apparatus for providing weather information onboard an aircraft, comprising:

a processor unit which processes weather information after it is received onboard the aircraft from a ground-based source; and

a graphical user interface which includes a user-selectable option that allows the user to request specific weather information for transmission from the ground-based source to the aircraft and provides a plan view of the weather information and position of the aircraft to a user onboard the aircraft, and which includes a user-selectable option for centering the plan view on the position of the aircraft, even as the position of the aircraft changes.

7. (Original) The apparatus of claim 6, wherein the graphical user interface further includes a user-selectable option for orienting the plan view so that the aircraft track points upward.

8. (Previously Presented) An apparatus for providing weather information onboard an aircraft, comprising:

a processor unit which processes weather information, including three-dimensional weather information, after it is received onboard the aircraft from a ground-based source; and

a graphical user interface which includes a user-selectable option that allows the user to request specific weather information for transmission from the ground-based source to the aircraft and provides a plan view of the weather information for a selected altitude to a user onboard the aircraft, and which includes a user-selectable option for changing the selected altitude.

9. (Previously Presented) A method of providing convection information to an aircraft, comprising the steps of:

collecting convection information at a centralized data center;

providing a specific request from the aircraft for the convection information;

transmitting the convection information from the data center to an aircraft in response to the request; and

graphically displaying the convection information onboard the aircraft.

10. (Original) The method of claim 9, wherein the convection information that is graphically displayed onboard the aircraft includes information regarding convective activity observations.

11. (Original) The method of claim 9, wherein the convection information that is graphically displayed onboard the aircraft includes information regarding convective forecasts.

12. (Original) The method of claim 9, wherein the convection information is transmitted from the data center to the aircraft via a telephony communication link.

13. (Original) The method of claim 9, wherein the convection information is transmitted from the data center to the aircraft via a satellite communication link.

14. (Previously Presented) A method of providing turbulence information to an aircraft, comprising the steps of:

collecting turbulence information at a centralized data center;

providing a specific request from the aircraft for the turbulence information;

transmitting the turbulence information from the data center to an aircraft in response to the request; and

graphically displaying the turbulence information onboard the aircraft.

15. (Original) The method of claim 14, wherein the turbulence information that is graphically displayed onboard the aircraft includes information regarding turbulence observations.

16. (Original) The method of claim 14, wherein the turbulence information that is graphically displayed onboard the aircraft includes information regarding turbulence forecasts.

17. (Original) The method of claim 14, wherein the turbulence information is transmitted from the data center to the aircraft via a telephony communication link.

18. (Original) The method of claim 14, wherein the turbulence information is transmitted from the data center to the aircraft via a satellite communication link.

19. (Previously Presented) A method of providing icing information to an aircraft, comprising the steps of:

collecting icing information at a centralized data center;

providing a specific request from the aircraft for the convection information;

transmitting the icing information from the data center to an aircraft in response to the request; and

graphically displaying the icing information onboard the aircraft.

20. (Original) The method of claim 19, wherein the icing information that is graphically displayed onboard the aircraft includes information regarding icing observations.

21. (Original) The method of claim 19, wherein the icing information that is graphically displayed onboard the aircraft includes information regarding icing forecasts.

22. (Original) The method of claim 19, wherein the icing information is transmitted from the data center to the aircraft via a telephony communication link.

23. (Original) The method of claim 19, wherein the icing information is transmitted from the data center to the aircraft via a satellite communication link.

24. (Previously Presented) A method of providing weather satellite information to an aircraft, comprising the steps of:

collecting weather satellite information at a centralized data center;

providing a specific request from the aircraft for the weather satellite information;

transmitting the weather satellite information from the data center to an aircraft in response to the request; and

graphically displaying the weather satellite information onboard the aircraft.

25. (Original) The method of claim 24, wherein the weather satellite information that is graphically displayed onboard the aircraft is altitude based.

26. (Original) The method of claim 24, wherein the weather satellite information is transmitted from the data center to the aircraft via a telephony communication link.

27. (Original) The method of claim 24, wherein the weather satellite information is transmitted from the data center to the aircraft via a satellite communication link.

28. (Previously Presented) A method of providing SIGMET information to an aircraft, comprising the steps of:

collecting SIGMET information at a centralized data center;

providing a specific request from the aircraft for the SIGMET information;

transmitting the SIGMET information from the data center to an aircraft in response to the request; and

graphically displaying the SIGMET information onboard the aircraft.

29. (Original) The method of claim 28, wherein the SIGMET information is transmitted from the data center to the aircraft via a telephony communication link.

30. (Original) The method of claim 28, wherein the SIGMET information is transmitted from the data center to the aircraft via a satellite communication link.

31. (Original) The method of claim 28, wherein the SIGMET information is graphically displayed in the form of geometric shapes representing areas affected by SIGMETs.

32. (Previously Presented) A method of providing significant weather prognosis information to an aircraft, comprising the steps of:

collecting significant weather prognosis information at a centralized data center;

providing a specific request from the aircraft for the weather prognosis information;

transmitting the significant weather prognosis information from the data center to an aircraft in response to the request; and

graphically displaying the significant weather prognosis information onboard the aircraft.

33. (Original) The method of claim 32, wherein the significant weather prognosis information is transmitted from the data center to the aircraft via a telephony communication link.

34. (Original) The method of claim 32, wherein the significant weather prognosis information is transmitted from the data center to the aircraft via a satellite communication link.

35. (Previously Presented) A method of providing winds aloft information to an aircraft, comprising the steps of:

collecting winds aloft information at a centralized data center;

providing a specific request from the aircraft for the winds aloft information;

transmitting the winds aloft information from the centralized data center to an aircraft in response to the request; and

graphically displaying the winds aloft information onboard the aircraft.

36. (Original) The method of claim 35, wherein the winds aloft information that is graphically displayed onboard the aircraft includes information regarding winds aloft observations.

37. (Original) The method of claim 35, wherein the winds aloft information that is graphically displayed onboard the aircraft includes information regarding winds aloft forecasts.

38. (Original) The method of claim 35, wherein the winds aloft information is transmitted from the data center to the aircraft via a telephony communication link.

39. (Original) The method of claim 35, wherein the winds aloft information is transmitted from the data center to the aircraft via a satellite communication link.